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| | DB=PC | FPB, USPT, EPAB, JPAB, DWPI; PLUR=YES; OP=OR | |
| Π | L9 | p116 with (IRES or HCV or hepatitis adj C) AND (eIF3 or eukaryotic adj initiation adj factor near3 3) | 1 |
| | L8 | L6 and p116 same (IRES or HCV or hepatitis adj C) | 2 |
| | L7 | L6 and p116 | 6 |
| | . L6 | (eIF3 or eukaryotic adj initiation adj factor near3 3) same (HCV or hepatitis adj c) | 17 |
| | L5 | (bicistronic or bi-cistronic) same luciferase same translat\$ and (@ad<20021212 or @pd<20021212) | . 36 |
| | L4 | L3 and (@ad<20021212 or @pd<20021212) | 46 |
| | L3 | L2 and translat\$ | 96 |
| | L2 | (bicistronic or bi-cistronic) same luciferase | 104 |
| | Ll | 20060035212 .pn. and rrm | 1 |

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| Overview | #14 S | earch #9 AN | D #13 | | | | | 11:30:33 | <u>65</u> |
| Help FAQ Tutorials | #13 F | Related Artic | les for Pub | Med (Select | t 11410661) | | | 11:25:03 | |
| New/Noteworthy | #8 S | earch #2 AN | D (II or IIa | ıb) | ŕ | | | 11:24:24 | |

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| <u>#14</u> | Search #9 AND #13 | 11:30:33 | <u>65</u> |
| <u>#13</u> | Related Articles for PubMed (Select 11410661) | 11:25:03 | <u>469</u> |
| #8 | Search #2 AND (II or IIab) | 11:24:24 | <u>4</u> |
| <u>#3</u> | Search #2 AND p116 | 11:24:18 | <u>4</u> |
| <u>#9</u> | Related Articles for PubMed (Select 9628916) | 11:24:08 | <u>118</u> |
| #11 | Search balakireva[au] AND (eIF3 or HCV or "hepatitis c" or "eukaryotic translation initiation factor" or "eukaryotic initiation factor") | 11:21:46 | <u>0</u> |
| <u>#10</u> | Search balakireva[au] AND (eIF3 or HCV or 'hepatitis c'' or '' eukaryotic translation initiation factor'' or '' eukaryotic initiation factor '') | 11:21:17 | <u>350</u> |
| <u>#2</u> | Search (eIF3 or "eukaryotic initiation factor 3") AND (HCV or "hepatitis C") | 11:12:55 | <u>28</u> |
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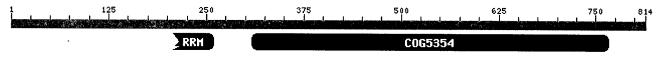
BLAST Basic Local Alignment Search Tool

Job Title: AAI10866: Eukaryotic translation initiation...

3.

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BLASTP 2.2.17 (Jun-24-2007)

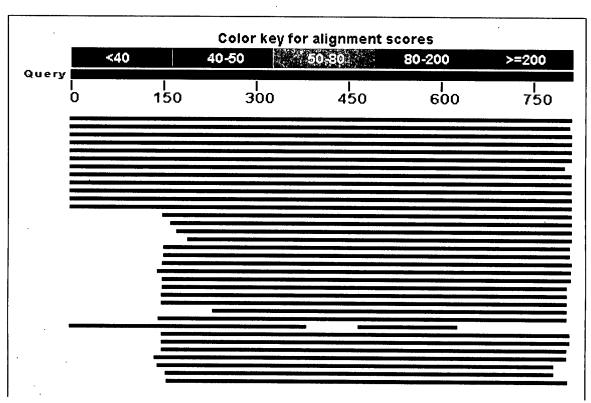
Reference: Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schäffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

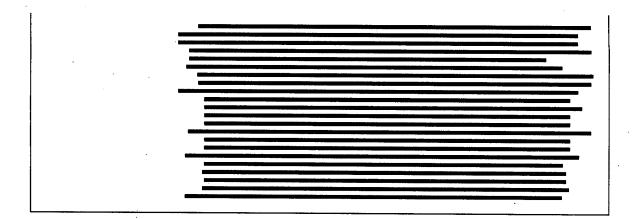
Reference: Schäffer, Alejandro A., L. Aravind, Thomas L. Madden, Sergei Shavirin, John L. Spouge, Yuri I. Wolf, Eugene V. Koonin, and Stephen F. Altschul (2001), "Improving the accuracy of PSI-BLAST protein database searches with composition-based statistics and other refinements", Nucleic Acids Res. 29:2994-3005. RID: 9AB7KR8V014 Database: All non-redundant GenBank CDS translations+PDB+SwissProt+PIR+PRF excluding environmental samples from WGS projects 5,269,953 sequences; 1,825,351,362 total letters

Query= gi|3123230|sp|P55884|IF39_HUMAN Eukaryotic translation initiation factor 3 subunit 9 (eIF-3 eta) (eIF3 p116) (eIF3 p110) (eIF3b) (Prt1 homolog) (hPrt1) Length=814

Lequivolent to SEQ 10 no:4

Distribution of 101 Blast Hits on the Query Sequence





| Sequences producing significant alignments: | Score (Bits) | E Value | |
|---|--------------------------|------------------|-----|
| ref XP_001086876.1 PREDICTED: eukaryotic translation initiat | 1582 | 0.0 | UG |
| gb[AAB42010.1 Prt1 homolog [Homo sapiens] | 1580 | 0.0 | UG |
| <pre>sp P55884 IF39 HUMAN Eukaryotic translation initiation factor</pre> | 1578 | 0.0 | G |
| ref[NP 003742.2] eukaryotic translation initiation factor 3, | 1576 | 0.0 | UG |
| gb EAW87239.1 eukaryotic translation initiation factor 3, su | 1570 | 0.0 | G |
| gb[EAL23952.1] eukaryotic translation initiation factor 3, su | 1528 | 0.0 | G |
| <pre>gb AAH23767.1 Eif3s9 protein [Mus musculus] >gb AAH51065.1 </pre> | 1451 | 0.0 | UG |
| ref[NP 598677.1] eukaryotic translation initiation factor 3, | 1437 | 0.0 | UG |
| ref[NP 001026810.1] eukaryotic translation initiation factor | 1425 | 0.0 | UG |
| ref XP 001256599.1 PREDICTED: similar to eukaryotic translat | 1398 | 0.0 | UG |
| ref XP 001379111.1 PREDICTED: similar to eukaryotic translat | 1354 | 0.0 | G |
| ref[XP_850719.1] PREDICTED: similar to Eukaryotic translation | 1349 | 0.0 | UG |
| ref[XP 536894.2] PREDICTED: similar to Eukaryotic translation | 1335 | 0.0 | UG |
| ref XP_001513573.1 PREDICTED: similar to eukaryotic translat | 1316 | 0.0 | G |
| gb[AAH07175.1] Eif3s9 protein [Mus musculus] | 1307 | 0.0 | UG |
| gb AAH09986.1 AAH09986 Unknown (protein for IMAGE:4124553) [Homo | 1276 | 0.0 | UG |
| ref[NP_001090004.1] hypothetical protein LOC735075 [Xenopus 1 | 1246 | 0.0 | UG |
| ref[NP_001016724.1] eukaryotic translation initiation factor | 1223 | 0.0 | UG |
| ref XP 862133.1 PREDICTED: similar to Eukaryotic translation | 1221 | 0.0 | UG |
| $\frac{\text{ref}\left[XP_001335480.1\right]}{\text{emb}\left[\text{CAF}92736.1\right]} \text{PREDICTED: similar to Prt1 homolog [Danio remb]} \\ PREDICTED: similar to Prt1$ | 1206 1090 | 0.0 | UG |
| ref XF 001190551.1 PREDICTED: similar to Prt1 homolog [Stron | 899 | 0.0 | UG |
| ref XP_393588.2 PREDICTED: similar to eIF3-S9 CG4878-PB, iso | 820 | 0.0 | UG |
| ref[XP_972849.1] PREDICTED: similar to CG4878-PB, isoform B [| 800 | 0.0 | UG |
| ref[XP 796053.2] PREDICTED: similar to Prt1 homolog, partial | 791 | 0.0 | UG |
| ref NP_001037602.1 eIF3-S9 [Bombyx mori] >gb ABF55967.1 eIF3-S | 732 | 0.0 | UG |
| gb[AAP21880.1] unknown [Homo sapiens] | 695 | 0.0 | G |
| gb AAM52578.1 AT09438p [Drosophila melanogaster] | 685 | 0.0 | U |
| ref NP 611228.1 eIF3-S9 CG4878-PB, isoform B [Drosophila mel gb EAT40558.1 translation initiation factor 3, subunit S9, p | <u>685</u> 682 | 0.0 | UG |
| ref[XP_320387.2] ENSANGP00000013937 [Anopheles gambiae str. P | 656 | 0.0 | G |
| emb CAN76773.1 hypothetical protein [Vitis vinifera] | 528 | 7e-148 | |
| gb ABE81765.1 Translation initiation factor eIF-3b [Medicago tr | 516 | 3e-144 | Tel |
| ref NP 568498.1 TIF3B1 (EUKARYOTIC TRANSLATION INITIATION FA ref NP 568477.1 EIF3B-2 (eukaryotic translation initiation f | 513 | 2e-143 | |
| ref NP 568477.1 EIF3B-2 (eukaryotic translation initiation f gb EAY79580.1 hypothetical protein OsI_033539 [Oryza sativa | <u>511</u> <u>510</u> | 9e-143 2e-142 | |
| $\texttt{ref} \texttt{NP} \underline{\texttt{001065446.1}} \texttt{Os10g0569200} [\texttt{Oryza sativa (japonica cult}]$ | 502 | 5e-140 | - |
| $\frac{\texttt{ref} \text{NP} 001031954.1 }{\texttt{emb} \text{CAL57606.1} } \texttt{TIF3B1} (\texttt{EUKARYOTIC TRANSLATION INITIATION}$ | 501 496 | 9e-140 2e-138 | |
| ref XP 001421305.1 predicted protein [Ostreococcus lucimarin | 496 | 3e-138 | |
| sp P56821 IF39 TOBAC Eukaryotic translation initiation factor | 496 | 3e-138 | |
| gb AAF67758.1 AF255680 1 eIF3b [Arabidopsis thaliana] gb EAZ17037.1 hypothetical protein OsJ 031246 [Oryza sativa | 484 480 | 7e-135 2e-133 | _ |
| $ref[XP_001389047.1]$ hypothetical protein An01g06230 [Aspergil | 478 | 1e-132 | |
| <pre>ref XP_001214066.1 hypothetical protein ATEG_04888 [Aspergil</pre> | 473 | 2e-131 | |
| $\underline{\text{ref}[XP_001269939.1]}$ eukaryotic translation initiation factor | 473 | 3e-131 | G |

1

| dbj BAE55898.1 unnamed protein product [Aspergillus oryzae] | 471 | 9e-131 | |
|---|-------------------|------------------------------------|-----|
| ref[XP 760446.1] hypothetical protein UM04299.1 [Ustilago may | 470 | 1e-130 G | • |
| <pre>ref[XP_749953.1] eukaryotic translation initiation factor 3 s</pre> | 469 | 4e-130 G | • |
| $\underline{\text{ref}[\text{XP}] 001265448.1}]$ eukaryotic translation initiation factor | 468 | 6e-130 C | |
| gb EDN06756.1 hypothetical protein HCAG_03286 [Ajellomyces caps | 468 | 9e-130 | |
| ref[XP 657963.1] hypothetical protein AN0359.2 [Aspergillus n gb[EDN32761.1] hypothetical protein BClG 11866 [Botryotinia fuck | $\frac{467}{464}$ | 2e-129 C 1e-128 | ì |
| gb EAU93076.1 hypothetical protein CC1G_06796 [Coprinopsis c | $\frac{441}{441}$ | 7e-122 | |
| ref[XP_001226218.1] conserved hypothetical protein [Chaetomiu | 441 | 1e-121 G | • |
| ref[XP 001238944.1] hypothetical protein CIMG_09966 [Coccidio | 439 | 3e-121 C | } |
| ref XP 001385934.1 predicted protein [Pichia stipitis CBS 60 | 437 | 1e-120 C | _ |
| ref[XP_505484.1 hypothetical protein [Yarrowia lipolytica] > | 436 | 3e−120 © | |
| <pre>ref XP_365276.1 hypothetical protein MGG_01978 [Magnaporthe</pre> | 436 | 3e-120 U | |
| ref[XP_959527.1], hypothetical protein [Neurospora crassa OR74 | 435 | 6e-120 C | |
| ref[XP_001523611.1] hypothetical protein LELG_05027 [Lodderom | 435 | 7e-120 G | - |
| ref[NF 594528.1] hypothetical protein SPAC25G10.08 [Schizosac | 428 | 8e-118 C | - |
| ref XP 639023.1 hypothetical protein DDBDRAFT_0218512 [Dicty | 426 | 3e-117 C | |
| ref[XP_385953.1] conserved hypothetical protein [Gibberella zeae | 426 | 4e-117 G | - |
| ref XP 001481981.1 hypothetical protein PGUG 05744 [Pichia g | 418 | 7e-115 G 4e-112 G | _ |
| ref XP 460786.1 hypothetical protein DEHA0F10681g [Debaryomy gb AAN75171.2 PRT1 [Cryptococcus neoformans var. grubii] | <u>409</u> 408 | 4e-112 C 7e-112 | ž . |
| ref[XP 570498.1] hypothetical protein [Cryptococcus neoforman | 408 | 9e-112 U | G |
| gb[AAV28786.1] PRT1p [Cryptococcus gattii] | 407 | 1e-111 | |
| <pre>gb AAN75151.2 PRT1 [Cryptococcus neoformans var. grubii] gb AAV28752.1 PRT1p [Cryptococcus gattii]</pre> | 404 | le-110 1e-109 | |
| ref[XF 721420.1] hypothetical protein CaOl9.6584 [Candida alb | 400 | 1e-109 G | 3 |
| gb[AAN75610.2] PRT1 [Cryptococcus neoformans var. neoformans] | 397 | 2e-108 | |
| ref NP_001022469.1 Eukaryotic Initiation Factor family membe | 375 | 5e-102 | G |
| emb CAE60607.1 Hypothetical protein CBG04247 [Caenorhabditis br | <u>366</u> | 3e-99 9e-97 © | 1 |
| ref NP 984494.1 ADR399Cp [Ashbya gossypii ATCC 10895] >gb AA | 358 | | _ |
| ref[XP 451155.1] unnamed protein product [Kluyveromyces lacti dbj[BAD92618.1] eukaryotic translation initiation factor 3, s | <u>355</u> 345 | | G |
| ref NP 015006.1 Prtlp [Saccharomyces cerevisiae] >sp P06103 | 340 | 3e-91 G | |
| gb[AAX27752.2] SJCHGC06669 protein [Schistosoma japonicum] | 321 | 1e-85 | 4 |
| ref[XP 448652.1] unnamed protein product [Candida glabrata] > | 308 | 9e−82 © | _ |
| ref[XP 763903.1] hypothetical protein TP04 0268 [Theileria pa | 304 | 1e-80 C | |
| ref XP 729404.1 hypothetical protein PY01620 [Plasmodium yoe | 303 | 2e-80 © | |
| ref[XP 952937.1] eukaryotic translation initiation factor [Th | 303 | 3e-80 © | 3 |
| ref XP_679842.1 eukaryotic translation initiation factor 3 s | 301 | 2e-79 G | • |
| gb EDL44054.1 Eukaryotic translation initiation factor 3 sub | 301 | 2e-79 | , |
| ref[XP_741862.1] eukaryotic translation initiation factor 3 s | 294 | 1e-77 G | _ |
| ref XP_667222.1 hypothetical protein Chro.20043 [Cryptospori | 293 | 4e-77 G | |
| ref XP 001351734.1 eukaryotic translation initiation factor | 292 | 5e-77 G 1e-76 G | |
| ref[XP_625404.1 prtip-like IF39 eukaryotic translation initi <u>ab[AAS92516.1 </u> PRT1; NFS1 [Cryptococcus gattii] | <u>291</u> 267 | 1e-76 2e-69 | • |
| dbj BAC86636.1 unnamed protein product [Homo sapiens] | 249 | 7e-64 C | 3 |
| pdb 2NLW A unnamed protein product [Homo sapiens] | 218 | 1e-54 S | |
| gb EAT88564.1 hypothetical protein SNOG_03359 [Phaeosphaeria no gb ABD98042.1 translation initiation factor [Striga asiatica] | $\frac{196}{185}$ | 5e-48 9e-45 | |
| ref XP 001033223.2 hypothetical protein TTHERM 00443100 [Tet | 154 | 3e-35 G | 3 |
| gb EDM03125.1 rCG62266 [Rattus norvegicus] | 152 | 8e-35 | - |
| ref[NP_564538.1] eukaryotic translation initiation factor-rel | 145 | 1e-32 U | G |
| | | | |

gb|AAF69714.1|AC016041_19 F27J15.19 [Arabidopsis thaliana] 135 2e-29 ref|XP 651295.1| hypothetical protein 172.t00009 [Entamoeba h... 133 4e-29 G

Alignments

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9 eta, 116kDa [Macaca mulatta]
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Sbjct
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Query
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                                                                        120
Sbjct
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            120
Query
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Sbjct
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                                                                        180
Query
       181
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Query
                                                                        300
Sbjct
       241
                                                                        300
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Query
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Sbjct
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                                                                        480
Sbjct
       421
                                                                        480
       481
Query
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                                                                        540
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                                                                        540
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Query
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Query
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Sbjct
       601
                                                                        660
       661
Query
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                                                                        780
Query
Sbjct
       721
            780
Query
       781
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Sbjct
       781
                                               814
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                                                                        60
Query
Sbjct
       1
                                                                        60
Query
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                                                                        120
Sbjct
       61
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241

Ouerv

300

Sbjct

241

```
300
Query
Sbjct
       301
             ECRDQYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHQRGIALW
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       301
                                                                              360
Query
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       361
                                                                              420
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       481
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                                                                              540
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                                                                              600
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Query
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Sbjct
       661
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       721
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                                                                              780
Sbjct
       721
                                                                              780
       781
Query
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Sbjct
       781
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(eIF3 pl16) (eI\overline{F}3 pl10) (eIF3b) (Prt1 homolog) (hPrt1)
 gb|AAC99479.1| UG eukaryotic translation initiation factor [Homo sapiens]
 gb|AAH01173.1| UG EIF3S9 protein [Homo sapiens]
 gb|AAI10866.1| UG Eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa
[Homo sapiens]
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 Score = 1578 bits (4086)
                            Expect = 0.0, Method: Composition-based stats.
 Identities = 814/814 (100%), Positives = 814/814 (100%), Gaps = 0/814 (0%)
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            MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGAPEAAGTEASSEEVGIAEA
Sbjct
       1
                                                                              60
       61
            GPEPEVRTEPAAEAEAASGPSESPSPPAAEELPGSHAEPPVPAQGEAPGEQARDERSDSR
Query
                                                                              120
Sbjct
       61
                                                                              120
       121
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                                                                              180
Sbjct
       121
                                                                              180
Query
       181
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                                                                              300
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Query
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Query
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Sbjct
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Query
       421
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Sbjct
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                                                                              540
       541
            VTNFEIFRMREKQVPVDVVEMKETIIAFAWEPNGSKFAVLHGEAPRISVSFYHVKNNGKI
Query
                                                                              600
Sbjct
       541
                                                                              600
Query
            ELIKMFDKQQANTIFWSPQGQFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMASDVEWD
       601
                                                                              660
Sbjct
       601
                                                                              660
Query
       661
            PTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLSOE01K01
                                                                              720
Sbjct .661
                                                                              720
       721
            KKDLKKYSKIFEQKDRLSQSKASKELVERRRTMMEDFRKYRKMAQELYMEQKNERLELRG
                                                                              780
```

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~
```

```
Sbjct
       721
        781
             GVDTDELDSNVDDWEEETIEFFVTEEIIPLGNOE
Query
Sbjct
>ref|NP 003742.2| UG eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa
[Homo sapiens]
 ref|NP_001032360.1| UG eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa
[Homo sapiens]
 gb|EAL23951.1| C eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa
[Homo sapiens]
 gb|EAW87237.1| ceukaryotic translation initiation factor 3, subunit 9 eta, 116kDa,
isoform CRA a [Homo sapiens]
 gb|EAW87240.1| G eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa,
isoform CRA a [Homo sapiens]
 gb|EAW87241.1| G eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa,
isoform CRA a [Homo sapiens]
Length=814
 Score = 1576 bits (4080), Expect = 0.0, Method: Composition-based stats Identities = 813/814 (99%), Positives = 813/814 (99%), Gaps = 0/814 (0%)
                             Expect = 0.0, Method: Composition-based stats.
Query
             MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGAPEAAGTEASSEEVGIAEA
                                                                                  60
.
Sbjct
                                                                                  60
        61
             GPEPEVRTEPAAEAEAASGPSESPSPPAAEELPGSHAEPPVPAQGEAPGEOARDERSDSR
Query
                                                                                 120
Sbjct
                                                                                  120
Query
        121
             AQAVSEDAGGNEGRAAEAEPRALENGDADEPSFSDPEDFVDDVSEEELLGDVLKDRPOEA
                                                                                 180
Sbjct
       121
                                                                                 180
Query
        181
             DGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYIFLEYASP
                                                                                 240
Sbjct
       181
                                                                                 240
Query
        241
             AHAVDAVKNADGYKLDKQHTFRVNLFTDFDKYMTISDEWDIPEKQPFKDLGNLRYWLEEA
                                                                                  300
Sbjct
       241
                                                                                  300
        301
             ECRDQYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHORGIALW
Query
                                                                                 360
Sbjct
        301
                                                                                  360
        361
             GGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTQDDPQAIIIWDILTGHKKRGFHC
                                                                                  420
Sbjct
       361
                                                                                  420
Query
        421
             ESSAHWP1FKWSHDGKFFARMTLDTLS1YETPSMGLLDKKSLK1SG1KDFSWSPGGN11A
                                                                                  480
Sbjct
       421
                                                                                 480
        481
Query
             FWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDCKLHWQKNGDYLCVKVDRTPKGTOGV
                                                                                 540
Sbjct
        481
                                                                                  540
        541
Query
             VTNFEIFRMREKQVPVDVVEMKETIIAFAWEPNGSKFAVLHGEAPRISVSFYHVKNNGKI
                                                                                  600
Sbjct
        541
                                                                                 600
        601
Query
             ELIKMFDKQQANTIFWSPQGQFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMASDVEWD
                                                                                 660
Sbjct
        601
                                                                                 660
Query
        661
             PTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLSQEQIKQI
                                                                                 720
Sbjct
       661
                                                                                 720
Query
        721
             KKDLKKYSKIFEQKDRLSQSKASKELVERRRTMMEDFRKYRKMAOELYMEOKNERLELRG
                                                                                 780
Sbjct
        721
                                                                                 780
       781
             GVDTDELDSNVDDWEEETIEFFVTEEIIPLGNQE
Query
Sbjct
       781
>gb|EAW87239.1| G eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa,
isoform CRA_c [Homo sapiens]
Length=819
 Score = 1570 bits (4065), Expect = 0.0, Method: Composition-based stats. Identities = 812/819 (99%), Positives = 813/819 (99%), Gaps = 5/819 (0%)
 Score = 1570 \text{ bits } (4065),
             MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGAPEAAGTEASSEEVGIAEA
Ouery
```

Sbjct

```
Query
      61
           GPEPEVRTEPAAEAEAASGPSESPSPPAAEELPGSHAEPPVPAOGEAPGEOARDERSDSR
                                                                      120
Sbjct
      61
                                                                      120
Query
      121
           AQAVSEDAGGNEGRAAÉAEPRALENGDADEPSFSDPEDFVDDVSEEELLGDVLKDRPQEA
                                                                      180
Sbjct
      121
                                                                      180
Query
      181
           DGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYIFLEYASP
                                                                      240
Sbjct
      181
                                                                      240
      241
Query
           AHAVDAVKNADGYKLDKQHTFRVNLFTDFDKYMTISDEWDIPEKOPFKDLGNLRYWLEEA
                                                                      300
Sbjct
      241
                                                                      300
Query
      301
           ECRDQYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHQRGIALW
                                                                      360
.
Sbjct
      301
                                                                       360
      361
           GGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTQDDPQAIIIWDILTGHKKRGFHC
Query
                                                                      420
Sbjct
      361
                                                                      420
      421
Query
           ESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMGLLDKKSLKISGIKDFSWSPGGNIIA
                                                                      480
Sbjct
      421
                                                                      480
Query
      481
           FWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDCKLHWQKNGDYLCVKVDRTPKGTOGV
                                                                      540
      481
Sbjct
                                                                      540
           VTNFEIFRMREKOVPVDVVEMK----ETIIAFAWEPNGSKFAVLHGEAPRISVSFYHVK
Query
      541
                                                                      595
Sbjct
      541
           600
      596
Query
           NNGKIELIKMFDKQQANTIFWSPQGQFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMAS
                                                                      655
Sbjct
      601
           660
Query
      656
           DVEWDPTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLSOE
                                                                      715
Sbjct
      661
                                                                      720
Query
      716
           QIKQIKKDLKKYSKIFEQKDRLSQSKASKELVERRRTMMEDFRKYRKMAQELYMEQKNER
                                                                      775
Šbjct
      721
                                                                       780
      776
Query
           LELRGGVDTDELDSNVDDWEEETIEFFVTEEIIPLGNQE
Sbjct
>gb|EAL23952.1|  eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa
[Homo sapiens]
 gb|EAW87238.1| G eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa,
isoform CRA b [Homo sapiens]
Length=775
 Score = 1528 bits (3955),
                         Expect = 0.0, Method: Composition-based stats.
 Identities = 774/814 (95%), Positives = 774/814 (95%), Gaps = 39/814 (4%)
Query
           MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGAPEAAGTEASSEEVGIAEA
Sbjct
                                                                      60
Query
      61
           GPEPEVRTEPAAEAEAASGPSESPSPPAAEELPGSHAEPPVPAQGEAPGEQARDERSDSR
                                                                      120
Sbjct
      61
           81
Query 12:
Sbjct 82
      121
           AQAVSEDAGGNEGRAAEAEPRALENGDADEPSFSDPEDFVDDVSEEELLGDVLKDRPOEA
                                                                      180
                                                                      141
           DGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYIFLEYASP
Query
      181
                                                                      240
Sbjct
      142
                                                                      201
      241
Query
           AHAVDAVKNADGYKLDKQHTFRVNLFTDFDKYMTISDEWDIPEKQPFKDLGNLRYWLEEA
                                                                      300
Sbjct
      202
                                                                      261
Query
           ECRDQYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHORGIALW
                                                                      360
Sbjct
      262
                                                                      321
           GGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTQDDPQAIIIWDILTGHKKRGFHC
Ouerv
      361
                                                                      420
Sbjct
      322
                                                                      381
Query
      421
           ESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMGLLDKKSLKISGIKDFSWSPGGNIIA
                                                                      480
Sbjct
      382
                                                                      441
      481
           FWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDCKLHWQKNGDYLCVKVDRTPKGTQGV
Query
                                                                      540
Sbjct
      442
                                                                      501
           541
           VTNFEIFRMREKQVPVDVVEMKETIIAFAWEPNGSKFAVLHGEAPRISVSFYHVKNNGKI
Query
                                                                      600
Sbjct
      502
                                                                      561
```

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•
```

```
601
Query
            ELIKMFDKQQANTIFWSPQGQFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMASDVEWD
                                                                           660
Sbjct
       562
                                                                           621
       661
            PTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLSQEQIKQI
Query
                                                                           720
Sbjct
       622
                                                                           681
Query
       721
            KKDLKKYSKI FEQKDRLSQSKASKELVERRRTMMEDFRKYRKMAOELYMEOKNERLELRG
                                                                           780
Sbjct
       682
                                                                           741
       781
Query
            GVDTDELDSNVDDWEEETIEFFVTEEIIPLGNQE
Sbjct
       742
>qb|AAH23767.1| UG Eif3s9 protein [Mus musculus]
 gb|AAH51065.1| UG Eif3s9 protein [Mus musculus]
Length=970
 Score = 1451 bits (3755), Expect = 0.0, Method: Composition-based stats. Identities = 732/804 (91%), Positives = 754/804 (93%), Gaps = 15/804 (1%)
            MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGAPEAAGTEASSEEVGIAEA
       1
Sbjct
            .....AR....S.S..TD---EA..S.GS.VGQ..DAE.D---...
                                                                           54
            GPEPEVRTEPAA--EAEAASGPSESPSPPAAEELPGSHAEPPVPAQGEAPGEQARDERSD
Query
       61
                                                                           118
Sbjct
       55
            .....AK...QS.E.T.TS.AA..T.QS..RS.SQ--..SA.GKA..V.....GHP.-
                                                                           111
       119
            SRAQAVSEDAGGNEGRAAEAEPRALENGDADEPSFSDPEDFVDDVSEEELLGDVLKDRPO
Query
                                                                           178
Sbjct
       112
            EADGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYIFLEYA
Query
                                                                           238
Sbjct
       168
                                                                           227
       239
Query
            SPAHAVDAVKNADGYKLDKOHTFRVNLFTDFDKYMTISDEWDIPEKOPFKDLGNLRYWLE
                                                                           298
Sbjct
       228
                                                                           287
       299
Query
            EAECRDQYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHQRGIA
                                                                           358
Sbjct
       288
                                                                           347
       359
Query
            LWGGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTODDPOAIIIWDILTGHKKRGF
                                                                           418
       348
Sbjct
                                                                           407
Query
       419
            HCESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMGLLDKKSLKISGIKDFSWSPGGNI
                                                                           478
Sbjct
       408
                                                                           467
       479
Query
            IAFWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDCKLHWQKNGDYLCVKVDRTPKGTO
                                                                           538
Sbjct
       468
                                                                           527
Query
       539
                                                                           598
Sbict
       528
                                                                           587
Query
       599
            KIELIKMFDKQQANTIFWSPQGQFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMASDVE
                                                                           658
       588
Sbjct
                                                                           647
       659
            WDPTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLSQEQIK
Ouerv
                                                                           718
Sbjct
       648
                                                                           707
       719
Query
            QIKKDLKKYSKIFEQKDRLSQSKASKELVERRRTMMEDFRKYRKMAQELYMEQKNERLEL
                                                                           778
Sbjct
       708
            767
       779
Query
            RGGVDTDELDSNVDDWEEETIEFF
Sbjct
       768
>ref|NP_598677.1| UG eukaryotic translation initiation factor 3, subunit 9 [Mus musculus]
 sp|Q8JZQ9|IF39 MOUSE G Eukaryotic translation initiation factor 3 subunit 9 (eIF-3 eta)
(eIF3 p116)
 gb|AAH31704.1| UG Eukaryotic translation initiation factor 3, subunit 9 (eta) [Mus
musculus]
 dbj|BAC28445.1| UG unnamed protein product [Mus musculus]
 dbj|BAE39671.1| UG unnamed protein product [Mus musculus]
 dbi|BAE42128.1| UG unnamed protein product [Mus musculus]
 gb|EDL19120.1| eukaryotic translation initiation factor 3, subunit 9 (eta) [Mus
musculus]
Length=803
```

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Score = 1437 bits (3721), Expect = 0.0, Method: Composition-based stats. Identities = 742/816 (90%), Positives = 766/816 (93%), Gaps = 15/816 (1%)
          MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGAPEAAGTEASSEEVGIAEA
Query
                                                                   60
Sbjct
           .....AR....S.S..TD---EA..S.GS.VGQ..DAE.D---...
Query
      61
           GPEPEVRTEPAA--EAEAASGPSESPSPPAAEELPGSHAEPPVPAQGEAPGEQARDERSD
                                                                   118
Sbjct
      55
           .....AK...QS.E.T.TS.AA..T.QS..RS.SQ--..SA.GKA..V.....GHP.-
                                                                   111
      119
           SRAQAVSEDAGGNEGRAAEAEPRALENGDADEPSFSDPEDFVDDVSEEELLGDVLKDRPO
Query
                                                                   178
Sbjct
      112
           167
      179
           EADGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYIFLEYA
                                                                   238
Query
Sbjct
      168
           .....I.Y.....
                                                                   227
      239
           SPAHAVDAVKNADGYKLDKQHTFRVNLFTDFDKYMTISDEWDIPEKQPFKDLGNLRYWLE
                                                                   298
Query
Sbjct
      228
                                                                   287
           299
Query
           EAECRDQYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHORGIA
                                                                   358
Sbjct
      288
                                                                   347
Query
           LWGGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTQDDPQAIIIWDILTGHKKRGF
                                                                   418
Sbjct
      348
                                                                   407
      419
           HCESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMGLLDKKSLKISGIKDFSWSPGGNI
                                                                   478
Query
Sbjct
      408
                                                                   467
      479
Query
           IAFWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDCKLHWQKNGDYLCVKVDRTPKGTQ
                                                                   538
Sbjct
                                                                   527
      468
           Query
      539
           GVVTNFEIFRMREKOVPVDVVEMKETIIAFAWEPNGSKFAVLHGEAPRISVSFYHVKNNG
                                                                   598
Sbjct
      528
                                                                   587
      599
           KIELIKMFDKOOANTIFWSPOGOFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMASDVE
                                                                   658
Query
Sbjct
      ,588
                                                                    647
Query
      659
           WDPTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLSQEQIK
                                                                   718
Sbjct
      648
                                                                   707
      719
           OIKKDLKKYSKIFEOKDRLSOSKASKELVERRRTMMEDFRKYRKMAQELYMEQKNERLEL
                                                                   778
Query
Sbjct
      708
           .....Q.....K......
                                                                   767
      779
           RGGVDTDELDSNVDDWEEETIEFFVTEEIIPLGNOE
Query
Sbjct
      768
           >ref|NP 001026810.1| UG eukaryotic translation initiation factor 3, subunit 9 (eta) [Rattus
norvegicus]
 sp|Q4G061|IF39 RAT G Eukaryotic translation initiation factor 3 subunit 9 (eIF-3 eta)
 gb|AAH98728.1| UG Eukaryotic translation initiation factor 3, subunit 9 (eta) [Rattus
norvegicus]
 gb|EDL89734.1| eukaryotic translation initiation factor 3, subunit 9 (eta) [Rattus
norvegicus]
Length=797
 Score = 1425 bits (3688), Expect = 0.0, Method: Composition-based stats. Identities = 735/814 (90%), Positives = 759/814 (93%), Gaps = 17/814 (2%)
           MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGAPEAAGTEASSEEVGIAEA
                                                                    60
Query
Sbjct
      1
           .....A.....AR...VS.S..TD---EA..S.GS.VGR..DAE.D---...
                                                                    54
           GPEPEVRTEPAAEAEAASGPSESPSPPAAEELPGSHAEPPVPAQGEAPGEQARDERSDSR
                                                                   120
Query
Sbjct
      55
           R.....AK...QS.----E.TAAS...SPT.Q.AQ..SA.GKA..G....-----H
                                                                   103
           AQAVSEDAGGNEGRAAEAEPRALENGDADEPSFSDPEDFVDDVSEEELLGDVLKDRPQEA
                                                                   180
      121
Query
Sbjct
      104
           PS.RA.EE..SD.S......E.....E.....
           DGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYIFLEYASP
Query
      181
                                                                   240
Sbjct
      164
           .....I.Y...............
                                                                   223
Query
      241
           AHAVDAVKNADGYKLDKQHTFRVNLFTDFDKYMTISDEWDIPEKQPFKDLGNLRYWLEEA
                                                                    300
Sbjct
      224
                                                                    283
           Query
      301
           ECRDOYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHORGIALW
                                                                    360
Sbjct
      284
                                                                    343
      361
           GGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTQDDPQAIIIWDILTGHKKRGFHC
                                                                    420
Query
      344
Sbjct
                                                                    403
```

```
Query
      421
          ESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMGLLDKKSLKISGIKDFSWSPGGNIIA
                                                                 480
Sbjct
      404
          463
Query
      481
          FWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDCKLHWQKNGDYLCVKVDRTPKGTQGV
                                                                 540
Sbict
      464
                                                                 523
      541
Query
          VTNFEIFRMREKOVPVDVVEMKETIIAFAWEPNGSKFAVLHGEAPRISVSFYHVKNNGKI
                                                                 600
      524
Sbjct
                                                                 583
Query
      601
          ELIKMFDKQQANTIFWSPQGQFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMASDVEWD
                                                                 660
Sbjct
      584
                                                                 643
      661
          PTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLSQEQIKQI
Query
                                                                 720
Sbjct
      644
          703
Query
      721
          KKDLKKYSKIFEQKDRLSQSKASKELVERRRTMMEDFRKYRKMAQELYMEQKNERLELRG
                                                                 780
      704
Sbjct
          -----Q.....K....K........
                                                                 763
          GVDTDELDSNVDDWEEETIEFFVTEEIIPLGNOE 814
      781
Query
      764
Sbjct
          >ref|XP 001256599.1| UG PREDICTED: similar to eukaryotic translation initiation factor
[Bos taurus]
Length=1086
Score = 1398 bits (3618), Expect = 0.0, Method: Composition-based stats. Identities = 718/818 (87%), Positives = 736/818 (89%), Gaps = 32/818 (3%)
           MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGAPEAAGTEASSEEVGIAEA
                                                                 60
Ouerv
      297
Sbjct
           .....A....Q....PE.A....S.GAEVA..---.VQ....G.D------V..
                                                                  346
           GPEPE----VRTEPAAEAEAASGPSESPSPPAAEELPGSHAEPPVPAOGEAPGEOARDER
Query
      61
                                                                 116
Sbjct
      347
           ..G..GPAE..LS.RPTG.---.KADATPGATPPPPEE.S.Q----LA....A...Q.AA
                                                                  399
Query
      117
           SDSRAQAVSEDAGGNEGRAAEAEPRALENGDADEPSFSDPEDFVDDVSEEELLGDVLKDR
                                                                 176
Sbjct
           AEAGSEGAGG.PD.-----A.D.G......A.....A....
      400
                                                                 448
      177
           PQEADGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYIFLE
Query
                                                                 236
Sbjct
      449
                                                                  508
      237
           YASPAHAVDAVKNADGYKLDKOHTFRVNLFTDFDKYMTISDEWDIPEKOPFKDLGNLRYW
                                                                 296
Ouerv
      509
Sbjct
      297
           LEEAECRDQYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHORG
Query
                                                                 356
Sbjct
      569
           628
      357
Query
           IALWGGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTQDDPQAIIIWDILTGHKKR
                                                                  416
Sbjct
      629
                                                                  688
           Query
      417
           GFHCESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMGLLDKKSLKISGIKDFSWSPGG
                                                                 476
Sbjct
      689
                                                                 -748
Query
      477
           NIIAFWVPEDKDIPARVTLMOLPTROEIRVRNLFNVVDCKLHWOKNGDYLCVKVDRTPKG
                                                                 536
Sbjct
      749
                                                                 808
Query . 537
                                                                 596
           TQGVVTNFEIFRMREKQVPVDVVEMKETIIAFAWEPNGSKFAVLHGEAPRISVSFYHVKN
Sbjct
      809
                                                                 868
Query
      597
           NGKIELIKMFDKQQANTIFWSPQGQFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMASD
                                                                  656
Sbjct
      869
                                                                 928
           657
           VEWDPTGRYVVTSVSWWSHKVDNAYWLWTFOGRLLOKNNKDRFCOLLWRPRPPTLLSOEO
Query
                                                                  716
Sbjct
      929
            988
Query
      717
           IKQIKKDLKKYSKIFEQKDRLSQSKASKELVERRRTMMEDFRKYRKMAQELYMEQKNERL
Sbjct
      989
                                                                  1048
      777
           ELRGGVDTDELDSNVDDWEEETIEFFVTEEIIPLGNQE
Query
Sbjct
      1049
```

Score = 1354 bits (3504), Expect = 0.0, Method: Composition-based stats. Identities = 709/839 (84%), Positives = 734/839 (87%), Gaps = 49/839 (5%)

>ref|XP 001379111.1| G PREDICTED: similar to eukaryotic translation initiation factor

[Monodelphis domestica]

Length=815

```
MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGA-----PEAAGT
Query
                                                               48
Sbjct
     1
          .....QEAAAAAAVLV..VK.-
      49
Query
          EASSEEVGIAEAGPEPEVRTEPAAEAEAASGPSESPSPPA-----AEELPGSH
                                                               96
Sbjct
      54
          .KGDTT.SVVKP.S...AIVKLL..EK.VVE.ASAEP..LVSPPPGESOPPPTDKV.EPK
                                                               113
Query
      97
          AEPPVPAQGEAPGEQARDERSDSRAQAVSEDAGGNEGRAAEAEPRALENG-DADEPSFSD
                                                               155
          ....AAKEEKREEKEKE..NK------E....Q.R...SNEE..I....
Sbjct
      114
                                                               156
          PEDFVDDVSEEELLGDVLKDRPQEADGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFG
      156
Query
                                                               215
Sbjct
      157
                                                               216
      216
          KITNDFYPEEDGKTKGYIFLEYASPAHAVDAVKNADGYKLDKOHTFRVNLFTDFDKYMTI
Query
                                                               275
Sbjct
      217
          276
      276
Query
          SDEWDIPEKOPFKDLGNLRYWLEEAECRDOYSVIFESGDRTSIFWNDVKDPVSIEERARW
                                                               335
Sbjct
      277
          336
Query
      336
          TETYVRWSPKGTYLATFHORGIALWGGEKFKOIORFSHOGVOLIDFSPCERYLVTFSPLM
                                                               395
Sbjct
      337
                                                               396
          DTQDDPQAIIIWDILTGHKKRGFHCESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMG
      396
                                                               455
Query
      397
Sbjct
          456
Query
      456
          LLDKKSLKISGIKDFSWSPGGNIIAFWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDC
                                                               515
Sbjct
      457
                                                               516
          KLHWQKNGDYLCVKVDRTPKGTOGVVTNFEIFRMREKOVPVDVVEMKETIIAFAWEPNGS
Query
      516
                                                               575
Sbjct
      517
                                                               576
Query
      576
          KFAVLHGEAPRISVSFYHVKNNGKIELIKMFDKOOANTIFWSPOGOFVVLAGLRSMNGAL
                                                               635
Sbjct
      577
                                                               636
Query
      636
          AFVDTSDCTVMNIAEHYMASDVEWDPTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNN
                                                               695
Sbjct
      637
                                                               696
      696
          KDRFCQLLWRPRPPTLLSQEQIKQIKKDLKKYSKIFEQKDRLSQSKASKELVERRRTMME
Query
                                                               755
Sbjct
      697
          756
      756
          DFRKYRKMAQELYMEQKNERLELRGGVDTDELDSNVDDWEEETIEFFVTEEIIPLGNQE
Query
                                                              814
Sbjct
      757
                                                              815
>ref|XP 850719.1| UG PREDICTED: similar to Eukaryotic translation initiation factor
3 subunīt 9 (eIF-3 eta) (eIF3 pl16) (eIF3 pl10) (eIF3b) isoform
2 [Canis familiaris]
Length=751
Score = 1349 bits (3492), Expect = 0.0, Method: Composition-based stats. Identities = 713/814 (87%), Positives = 726/814 (89%), Gaps = 63/814 (7%)
Query
          MQDAENVAVPEAAEERAEPGQQQPAAEPPPAEGLLRPAGPGAPEAAGTEASSEEVGIAEA
                                                               60
Sbjct 1
          .....A....Q.T..V.......G.EPP..P...Q...SG.DD-----.
                                                               53
          GPEPEVRTEPAAEAEAASGPSESPSPPAAEELPGSHAEPPVPAQGEAPGEQARDERSDSR
Query
      61
                                                               120
Sbjct
      54
          ....D-----..A...G.AAAEA.
                                                               74
Query
      121
          AQAVSEDAGGNEGRAAEAEPRALENGDADEPSFSDPEDFVDDVSEEELLGDVLKDRPOEA
                                                               180
Sbjct
      75
          117
Query
      181
          DGIDSVIVVDNVPOVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYIFLEYASP
                                                               240
Sbjct
      118
          177
Query
      241
          AHAVDAVKNADGYKLDKOHTFRVNLFTDFDKYMTISDEWDIPEKOPFKDLGNLRYWLEEA
                                                               300
Sbjct
      178
                                                               237
      301
          ECRDQYSVIFESGDRTS:FWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHORGIALW
Query
                                                               360
Sbjct
      238
          297
          GGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTQDDPQAIIIWDILTGHKKRGFHC
      361
                                                               420
Query
Sbjct
      298
          357
Query 421
          ESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMGLLDKKSLKISGIKDFSWSPGGNIIA
                                                               480
Sbjct
      358
                                                               417
Query
      481
          FWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDCKLHWQKNGDYLCVKVDRTPKGTQGV
                                                               540
Sbjct
      418
                                                               477
          VTNFEIFRMREKQVPVDVVEMKETIIAFAWEPNGSKFAVLHGEAPRISVSFYHVKNNGKI
                                                               600
```

```
Sbjct
      478
                                                                       537
       601
Query
           ELIKMFDKOOANTIFWSPOGOFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMASDVEWD
                                                                       660
Sbjct
      538
                                                                       597
Query
           PTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLSQEQIKQI
       661
                                                                       720
Sbjct
      598
                                                                       657
Query
      721
           KKDLKKYSKIFEQKDRLSQSKASKELVERRRTMMEDFRKYRKMAQELYMEQKNERLELRG
                                                                       780
Sbjct
      658
                                                                       717
      781
           GVDTDELDSNVDDWEEETIEFFVTEEIIPLGNOE 814
Query
      718
Sbjct
           >ref[XP_536894.2] UG PREDICTED: similar to Eukaryotic translation initiation factor
3 subunit 9 (eIF-3 eta) (eIF3 pl16) (eIF3 pl10) (eIF3b) isoform 1 [Canis familiaris]
ref|XP 862080.1| UG PREDICTED: similar to Eukaryotic translation initiation factor
3 subunit 9 (eIF-3 eta) (eIF3 pl16) (eIF3 pl10) (eIF3b) isoform 3 [Canis familiaris]
ref | XP 862108.1 | UG PREDICTED: similar to Eukaryotic translation initiation factor
3 subunit 9 (eIF-3 eta) (eIF3 p116) (eIF3 p110) (eIF3b) isoform 4 [Canis familiaris]
Length=785
 Score = 1335 bits (3455), Expect = 0.0, Method: Composition-based stats. Identities = 656/664 (98%), Positives = 661/664 (99%), Gaps = 0/664 (0%)
           PSFSDPEDFVDDVSEEELLGDVLKDRPQEADGIDSVIVVDNVPQVGPDRLEKLKNVIHKI
      151
Query
                                                                       210
Sbjct
      122
                                                                       181
           FSKFGKITNDFYPEEDGKTKGYIFLEYASPAHAVDAVKNADGYKLDKQHTFRVNLFTDFD
      211
Query
                                                                       270
Sbjct
      182
           241
       271
           KYMTISDEWDIPEKQPFKDLGNLRYWLEEAECRDQYSVIFESGDRTSIFWNDVKDPVSIE
Query
                                                                       330
Sbjct
      242
           301
Query
       331
           ERARWTETYVRWSPKGTYLATFHQRGIALWGGEKFKQIQRFSHQGVQLIDFSPCERYLVT
                                                                       390
Sbjct
       302
                                                                       361
       391
           FSPLMDTQDDPQAIIIWDILTGHKKRGFHCESSAHWPIFKWSHDGKFFARMTLDTLSIYE
Query
                                                                       450
Sbjct
       362
           421
       451
           TPSMGLLDKKSLKISGIKDFSWSPGGNIIAFWVPEDKDIPARVTLMQLPTRQEIRVRNLF
Query
                                                                       510
Sbjct
      422
                                                                       481
       511
Query
           NVVDCKLHWQKNGDYLCVKVDRTPKGTOGVVTNFEIFRMREKOVPVDVVEMKETIIAFAW
                                                                       570
Sbjct
       482
                                                                       541
       571
           EPNGSKFAVLHGEAPRISVSFYHVKNNGKIELIKMFDKQQANTIFWSPQGQFVVLAGLRS
Query
                                                                       630
Sbjct
       542
                                                                       601
Query
       631
           MNGALAFVDTSDCTVMNIAEHYMASDVEWDPTGRYVVTSVSWWSHKVDNAYWLWTFQGRL
                                                                       690
Sbjct
      602
                                                                       661
       691
Query
           LQKNNKDRFCQLLWRPRPPTLLSQEQIKQIKKDLKKYSKIFEOKDRLSOSKASKELVERR
                                                                       750
Sbjct
           662
                                                                       721
      751
           RTMMEDFRKYRKMAQELYMEQKNERLELRGGVDTDELDSNVDDWEEETIEFFVTEEIIPL
Query ·
                                                                       810
Sbjct
      722
           781
Query
       811
           GNOE
                 814
Sbjct
      782
                 785
           . . . .
>ref|XP 001513573.1| G PREDICTED: similar to eukaryotic translation initiation factor
[Ornithorhynchus anatinus]
Length=692
 Score = 1316 bits (3407), Expect = 0.0, Method: Composition-based stats. Identities = 634/651 (97%), Positives = 646/651 (99%), Gaps = 0/651 (0%)
           SEEELLGDVLKDRPQEADGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFGKITNDFYP
      164
Query
Sbjct
      42
                                                                       101
      224
           EEDGKTKGYIFLEYASPAHAVDAVKNADGYKLDKQHTFRVNLFTDFDKYMTISDEWDIPE
Query
                                                                       283
           161
```

| Query | 284 | KQPFKDLGNLRYWLEEAECRDQYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWS | 343 | | | | |
|-----------------------------|---|---|-----------|--|--|--|--|
| Sbjct | 162 | | 221 | | | | |
| Query | 344 | PKGTYLATFHQRGIALWGGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTQDDPQA | 403 | | | | |
| Sbjct | 222 | | 281 | | | | |
| Query | 404 | IIIWDILTGHKKRGFHCESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMGLLDKKSLKvvv | 463 | | | | |
| Sbjct | 28,2 | | 341 | | | | |
| Query | 464 | ISGIKDFSWSPGGNIIAFWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDCKLHWQKNG | 523 | | | | |
| Sbjct | 342 | | 401 | | | | |
| Query | 524 | DYLCVKVDRTPKGTQGVVTNFEIFRMREKQVPVDVVEMKETIIAFAWEPNGSKFAVLHGE | 583 | | | | |
| Sbjct | 402 | | 461 | | | | |
| Query | 584 | APRISVSFYHVKNNGKIELIKMFDKQQANTIFWSPQGQFVVLAGLRSMNGALAFVDTSDC T | 643 | | | | |
| Sbjct | 462 | | 521 | | | | |
| Query | 644 | TVMNIAEHYMASDVEWDPTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLL .M | 703 | | | | |
| Sbjct | 522 | | 581 | | | | |
| Query | 704 | WRPRPPTLLSQEQIKQIKKDLKKYSKIFEQKDRLSQSKASKELVERRRTMMEDFRKYRKMTDRR | 763 | | | | |
| Sbjct | 582 | | 641 | | | | |
| Query Sbjct | 764 642 | AQELYMEQKNERLELRGGVDTDELDSNVDDWEEETIEFFVTEEIIPLGNQE 814 692 | | | | | |
| > gb AA Length | | 5.1 UG Eif3s9 protein [Mus musculus] | | | | | |
| Score Ident | = 130 ities | 07 bits (3383), Expect = 0.0, Method: Composition-based stats = $632/641$ (98%), Positives = $640/641$ (99%), Gaps = $0/641$ (0%) | • | | | | |
| Query | 174 | KDRPQEADGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYI | 233 | | | | |
| Sbjct | 1 | | 60 | | | | |
| Query | 234 | FLEYASPAHAVDAVKNADGYKLDKQHTFRVNLFTDFDKYMTISDEWDIPEKQPFKDLGNL | 293 | | | | |
| Sbjct | 61 | | 120 | | | | |
| Query | 294 | RYWLEEAECRDQYSVIFESGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFH | 353 | | | | |
| Sbjct | 121 | | 180 | | | | |
| Query | 354 | QRGIALWGGEKFKQIQRFSHQGVQLIDFSPCERYLVTFSPLMDTQDDPQAIIIWDILTGH | 413 | | | | |
| Sbjc t | 181 | | 240 | | | | |
| Query | 414 | KKRGFHCESSAHWPIFKWSHDGKFFARMTLDTLSIYETPSMGLLDKKSLKISGIKDFSWS | 473 | | | | |
| Sbjct | 241 | | 300 | | | | |
| Query | 474 | PGGNIIAFWVPEDKDIPARVTLMQLPTRQEIRVRNLFNVVDCKLHWQKNGDYLCVKVDRT | 533 | | | | |
| Sbjct | 301 | | 360 | | | | |
| Query | 534 | PKGTQGVVTNFEIFRMREKQVPVDVVEMKETIIAFAWEPNGSKFAVLHGEAPRISVSFYH | 593 | | | | |
| Sbjct | 361 | | 420 | | | | |
| Query | 594 | VKNNGKIELIKMFDKQQANTIFWSPQGQFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMs | 653 | | | | |
| Sbjct | 421 | | 480 | | | | |
| Query | 654 | ASDVEWDPTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLS | 713 | | | | |
| Sbjct | 481 | | 540 | | | | |
| Query | 714 | $ \begin{array}{llllllllllllllllllllllllllllllllllll$ | 773 | | | | |
| Sbjct | 541 | | 600 | | | | |
| Query Sbjct | 774 601 | ERLELRGGVDTDELDSNVDDWEEETIEFFVTEEIIPLGNQE 814 641 | | | | | |
| > gb AA l Length= | H0998 6 =622 | 5.1 AAH09986 UG Unknown (protein for IMAGE:4124553) [Homo sap | piens | | | | |
| Score Ident: | Score = 1276 bits (3303), Expect = 0.0, Method: Composition-based stats. Identities = $621/623$ (99%), Positives = $621/623$ (99%), Gaps = $1/623$ (0%) | | | | | | |
| Query Sbjct | 1 | VPQVGPDRLEKLKNVIHKIFSKFGKITNDFYPEEDGKTKGYIFLEYASPAHAVDAVKNAD | 251 60 | | | | |
| 0 | 250 | CAN DECIMED AND EMPEDATION OF THE LOCAL CANDARY STATES OF THE CONTRACT OF THE | | | | | |

```
Sbjct
      61
                                                                120
          Query
Sbjct
          SGDRTSIFWNDVKDPVSIEERARWTETYVRWSPKGTYLATFHORGIALWGGEKFKOIORF
                                                                371
      121
                                                                180
Query
Sbjct
      372
          SHOGVOLIDFSPCERYLVTFSPLMDTODDPOAIIIWDILTGHKKRGFHCESSAHWPIFKW
                                                                431
      181
                                                                240
      432
Query
          SHDGKFFARMTLDTLSIYETPSMGLLDKKSLKISGIKDFSWSPGGNIIAFWVPEDKDIPA
                                                                491
Sbjct
      241
                                                                300
      492
          RVTLMQLPTRQEIRVRNLFNVVDCKLHWOKNGDYLCVKVDRTPKGTOGVVTNFEIFRMRE
                                                                551
Query
Sbjct
      301
                                                                359
          KOVPVDVVEMKETIIAFAWEPNGSKFAVLHGEAPRISVSFYHVKNNGKIELIKMFDKOOA
      552
Query
                                                                611
Sbjct
      360,
                                                                419
                                                                671
      612
          NTIFWSPOGOFVVLAGLRSMNGALAFVDTSDCTVMNIAEHYMASDVEWDPTGRYVVTSVS
Query
Sbjct
      420
                                                                479
      672
Query
          WWSHKVDNAYWLWTFQGRLLQKNNKDRFCQLLWRPRPPTLLSQEQIKQIKKDLKKYSKIF
                                                                731
Sbjct
      480
                                                                539
          Query
      732
          EQKDRLSQSKASKELVERRRTMMEDFRKYRKMAQELYMEQKNERLELRGGVDTDELDSNV
                                                                791
.
Sbjct
      540
                                                                599
      792
          DDWEEETIEFFVTEEIIPLGNQE 814
Query
Sbjct
      600
>ref[NP 001090004.1] UG hypothetical protein LOC735075 [Xenopus laevis]
gb|AAH92246.1| UG MGC99017 protein [Xenopus laevis]
Length=688
Score = 1246 bits (3223), Expect = 0.0, Method: Composition-based stats. Identities = 595/658 (90%), Positives = 633/658 (96%), Gaps = 0/658 (0%)
      153
          FSDPEDFVDDVSEEELLGDVLKDRPQEADGIDSVIVVDNVPQVGPDRLEKLKNVIHKIFS
Query
                                                                212
Sbjct
      29
          88
      213
Query
          KFGKITNDFYPEEDGKTKGYIFLEYASPAHAVDAVKNADGYKLDKOHTFRVNLFTDFDKY
                                                                272
Sbjct
      89
          ....L..E...QAE.S.....L..Q.Q......
                                                                148
      273
          MTISDEWDIPEKQPFKDLGNLRYWLEEAECRDQYSVIFESGDRTSIFWNDVKDPVSIEER
Query
                                                                332
      149
Sbjct
          .V.G.,..V......F....S...DPD....F...Y......T...E..PV...
                                                                208
      333
          ARWTETYVRWSPKGTYLATFHQRGIALWGGEKFKQIQRFSHQGVQLIDFSPCERYLVTFS
                                                                392
Query
      209
Sbjct
                                                                268
          PLMDTQDDPQAIIIWDILTGHKKRGFHCESSAHWPIFKWSHDGKFFARMTLDTLSIYETP
      393
                                                                452
Query
Sbjct
      269
                                                                328
      453
          SMGLLDKKSLKISGIKDFSWSPGGNIIAFWVPEDKDIPARVTLMQLPTRQEIRVRNLFNV
Query
                                                                512
      329
Sbjct
          388
      513
          VDCKLHWQKNGDYLCVKVDRTPKGTQGVVTNFE1FRMREKQVPVDVVEMKET11AFAWEP
Query
                                                                572
      389
Sbjct
          448
      573
          NGSKFAVLHGEAPRISVSFYHVKNNGKIELIKMFDKOOANTIFWSPOGOFVVLAGLRSMN
                                                                632
Query
Sbjct
      449
          508
          GALAFVDTSDCTVMNIAEHYMASDVEWDPTGRYVVTSVSWWSHKVDNAYWLWTFQGRLLQ
      633
                                                                692
Query
Sbjct
      509
          568
          \verb|KNNKDRFCQLLWRPRPPTLLSQEQIKQIKKDLKKYSKIFEQKDRLSQSKASKELVERRRT|
Query
      693
                                                                752
      569
          Sbjct
                                                                628
          MMEDFRKYRKMAQELYMEQKNERLELRGGVDTDELDSNVDDWEEETIEFFVTEEIIPL
      753
Sbjct
          ....EYKT..E..TK.....TA...I.....L....E.....V
```

>ref|NP_001016724.1| UG eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa [Xenopus tropicalis] Length=676

Score = 1223 bits (3164), Expect = 0.0, Method: Composition-based stats. Identities = 597/659 (90%), Positives = 632/659 (95%), Gaps = 0/659 (0%)

```
152
Query
          SFSDPEDFVDDVSEEELLGDVLKDRPQEADGIDSVIVVDNVPQVGPDRLEKLKNVIHKIF
                                                               211
Sbjct
      16
          75
                                                                271
      212
          SKFGKITNDFYPEEDGKTKGYIFLEYASPAHAVDAVKNADGYKLDKOHTFRVNLFTDFDK
Query
      76
Sbjct
          .....EY...AE.T.R......L.TQ.Q......C.............
                                                                135
      272
Query
          YMTISDEWDIPEKQPFKDLGNLRYWLEEAECRDQYSVIFESGDRTSIFWNDVKDPVSIEE
                                                                331
Sbjct
      136
          ..V.G...EA......F....S...DPD....F...Y.......T...E..PV..
                                                                195
Query
      332
          RARWTETYVRWSPKGTYLATFHQRGIALWGGEKFKQIQRFSHQGVQLIDFSPCERYLVTF
                                                                391
Sbjct
      196
                                                                255
      392
          SPLMDTQDDPQAIIIWDILTGHKKRGFHCESSAHWPIFKWSHDGKFFARMTLDTLSIYET
Ouerv
                                                                451
      256
Sbjct
          ....KEE....QN....QN....
                                                                315
          PSMGLLDKKSLKISGIKDFSWSPGGNIIAFWVPEDKDIPARVTLMQLPTRQEIRVRNLFN
      452
Query
                                                                511
Sbjct
      316
          375
      512
          VVDCKLHWQKNGDYLCVKVDRTPKGTQGVVTNFEIFRMREKOVPVDVVEMKETIIAFAWE
Query -
                                                                571
Sbict
      376
                                                                435
          PNGSKFAVLHGEAPRISVSFYHVKNNGKIELIKMFDKQQANTIFWSPQGQFVVLAGLRSM
Query
      572
                                                                631
      436
Sbjct
          495
          NGALAFVDTSDCTVMNIAEHYMASDVEWDPTGRYVVTSVSWWSHKVDNAYWLWTFOGRLL
      632
Query
                                                                691
Sbjct
      496
                                                                555
      692
          QKNNKDRFCQLLWRPRPPTLLSQEQIKQIKKDLKKYSKIFEQKDRLSQSKASKELVERRR
Query
                                                                751
Sbjct
      556
          615
Query
          TMMEDFRKYRKMAQELYMEQKNERLELRGGVDTDELDSNVDDWEEETIEFFVTEEIIPL
                                                               810
Sbjct
          616
                                                               674
>ref|XP 862133.1| UG PREDICTED: similar to Eukaryotic translation initiation factor
3 subunīt 9 (eIF-3 eta) (eIF3 p116) (eIF3 p110) (eIF3b) isoform
5 [Canis familiaris]
Length=741
Score = 1221 bits (3159), Expect = 0.0, Method: Composition-based stats. Identities = 614/664 (92%), Positives = 619/664 (93%), Gaps = 44/664 (6%)
          PSFSDPEDFVDDVSEEELLGDVLKDRPQEADGIDSVIVVDNVPQVGPDRLEKLKNVIHKI
      151
                                                               210
Ouerv
Sbjct
      122
      211
          FSKFGKITNDFYPEEDGKTKGYIFLEYASPAHAVDAVKNADGYKLDKOHTFRVNLFTDFD
Query
                                                                270
Sbjct
     182
          241
Query
      271
          KYMTISDEWDIPEKOPFKDLGNLRYWLEEAECRDOYSVIFESGDRTSIFWNDVKDPVSIE
                                                                330
Sbjct
      242
                                                                301
          ERARWTETYVRWSPKGTYLATFHQRGIALWGGEKFKQIQRFSHQGVQLIDFSPCERYLVT
      331
Query
                                                                390
      302
Sbjct
                                                                357
Query
      391
          FSPLMDTQDDPQAIIIWDILTGHKKRGFHCESSAHWPIFKWSHDGKFFARMTLDTLSIYE
                                                                450
      358
Sbjct
                                                                377
      451
Query
          TPSMGLLDKKSLKISGIKDFSWSPGGNIIAFWVPEDKDIPARVTLMQLPTROEIRVRNLF
                                                                510
Sbjct
      378
                                                                437
Query
      511
          NVVDCKLHWQKNGDYLCVKVDRTPKGTQGVVTNFEIFRMREKQVPVDVVEMKETIIAFAW
                                                                570
Sbjct
      438
                                                                497
Query
      571
          EPNGSKFAVLHGEAPRISVSFYHVKNNGKIELIKMFDKQQANTIFWSPQGQFVVLAGLRS
                                                                630
Sbjct
      498
                                                                557
      631
          MNGALAFVDTSDCTVMNIAEHYMASDVEWDPTGRYVVTSVSWWSHKVDNAYWLWTFQGRL
Query
                                                                690
Sbjct
      558
                                                                617
      691
Query
          LQKNNKDRFCQLLWRPRPPTLLSQEQIKQIKKDLKKYSKIFEQKDRLSQSKASKELVERR
                                                                750
          Sbjct
      618
                                                                677
      751
          RTMMEDFRKYRKMAQELYMEQKNERLELRGGVDTDELDSNVDDWEEETIEFFVTEEIIPL
Query
                                                                810
Sbjct
      678
          737
               .814
Query
Sbjct
      738
               741
          . . . .
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